



NK70-209



DQ70-209

SED TOUR AND TRAINING RADIO SYSTEM
FM 916MHZ TRANSMITTER and RECEIVER
TT70-916TX and TT70-916RX
With DQ70-209 Hearing Protector with Noise Canceling Microphone
With NK70-209 Hearing Protector with Speakers
FCC ID# QU6TT916TX
IC # 7968A-TT916TX

SPECIAL ELECTRONICS
&
DESIGNS INC.
INSTRUCTION MANUAL P/N #901127 Rev 0

BEFORE USING YOUR HEADSET

Please read this user's guide to get started, and to make the best use of the headset's many features.

The Tour and Training radio system allows a Trainer using the TT70-916TX to communicate voice to a single or multiple (no limit) TT70-916RX. The units are self contained belt mounted or carabineer mounted construction. A supplied hearing protector is connected to the belt mounted units to allow communication in a noisy environment.

3 "AA" Batteries are placed in the units rear battery compartment.

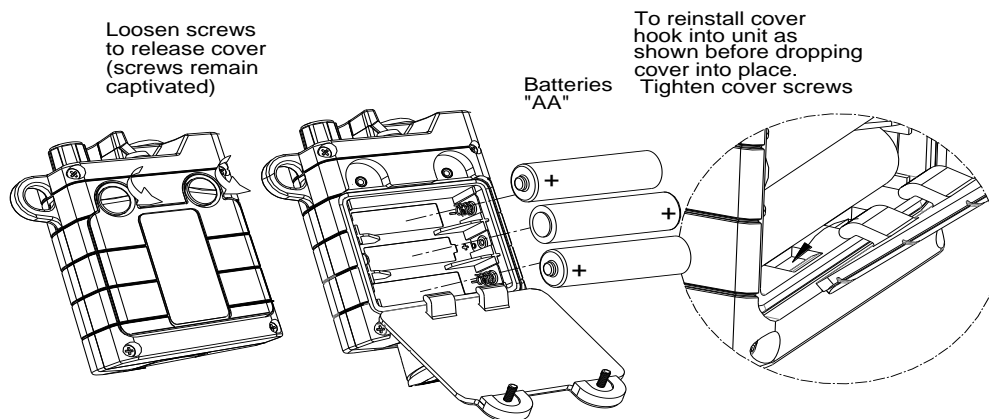
The appropriate headset hearing protector is plugged into the belt mounted unit.

The Transmitter unit TT70-916TX will transmit a signal for approximately 100Ft. to a nearby receiver unit TT70-916RX.

This allows instructors or tour guides to transmit voice instructions to a group of students or listeners in the 100Ft radius.

Operation:

1. Install 3 "AA" batteries in the rear battery compartment of the TT916-RX and TT916-TX belt mounted units. Loosen the 2 screws equally on the battery cover. Remove the cover. Place 3 new batteries into the battery holder making certain the polarity of the batteries is correct. Replace the cover and tighten the screws.



2. Plug the appropriate headset into the belt mounted units.
3. The headset with the boom microphone (DQ70-209) plugs into the TT916-TX. This headset has no speakers and cannot hear any transmissions. Align the dots on the connectors and push the connector into the TT916 unit. See headset Manual for adjustments
4. The headset with no boom microphone (NK70-209) plugs into the TT916-RX and is a listen only headset and hears the Trainer or Tour Guide. Align the dots on the connectors and push the connector into the TT916 unit. See headset Manual for

adjustments

5. Don the DQ70-209 headset and mount the Transmitter unit on your belt or fasten it with the Carabineer.
6. Have an assistant Don the NK70-209 listen only headset and mount the receiver unit on your belt or fasten it with the Carabineer.
7. Turn the Volume control to $\frac{1}{4}$ level
8. Turn on the Transmitter Power Switch on top of the Transmit belt unit.
9. Turn on the Receiver power switch on top of Receiver belt unit.
10. Speak clearly into the microphone, the assistant will hear clear voice audio
11. When finished turn the Transmitter and Receiver units OFF.

The transmitter and Receiver will be usable for at least 40 hours of battery use.

3x "AA" batteries 4.5Vdc

Current 25ma

Case	ABS
Power	3 "AA" Alkaline Batteries
Mounting	Carabineer or soft case

HEADSET SPECIFICATIONS –DQ70-209 HEARING PROTECTOR (ELECTRET MIC)

- 1 SED™ MODEL
 - 7.1 DQ70-209 Dual Headset with Noise-Cancelling Electret Mic. Element
- 2 CONSTRUCTION
 - 7.2 Hearing Protector: Totally dielectric, 19,000V isolation
 - 7.3 Cable Retention: Anchor ring and adhesive to Earcup
 - 7.4 CABLE STRAIN RELIEF: Rubber grommets in earcup
- 3 HEARING PROTECTOR
 - 7.5 Style: SED™ Inc. for use with or without hardhat
 - 7.6 Rating: CSA (B) per ANSI S3.19-1974
 - 7.7 Noise Reduction Rating: (NRR) 24 dB before earcup modification
 - 7.8 Weight: 500 grams
 - 7.9 Height: 11.9 cm Max.
 - 7.10 Width: 8.5 cm Max.
 - 7.11 Depth: 5.5 cm Max (Not including Cushion and Mount)
 - 7.12 Ear Cushion Thickness: 1.7 cm (In non-compressed state)
 - 7.13 Headstrap Positions: Over the head
 - 7.14 Tension Band: Behind the head
 - 7.15 Earcushions: PVC foil over foam, Field replaceable
 - 7.16 Options: Moisture-absorbing disposable pads, for Peel-and-Stick application to cushion
 - 7.17 Compatibility: Useable with Hardhats, Bump Caps, SCBA, Half Face Masks
- 4 CONNECTION CORD
 - 7.18 Location: Right earcup
 - 7.19 Length: 36" (91.44 cm) (from earcup to end of connector)
 - 7.20 Style: Retractable
 - 7.21 Jacket Material: SEDFLEX™ I
 - 7.22 Chemical Resistance: gasoline, ethanol, methanol, motor oil, salt solutions
 - 7.23 Temp Range: -40° to +60° C
 - 7.24 Termination: Push Pull Release
- 5 MICROPHONE
 - 7.25 Impedance : 2000 Ohms
 - 7.26 Electret amplified
 - 7.27 Frequency Response: 300 – 7000 Hz +/- 5 dB

HEADSET SPECIFICATIONS –NK70-209- HEARING PROTECTOR (DYNAMIC)

6 SED™ MODEL

7.28 NK70-209 Dual Headset with Noise-Cancelling Dynamic Element

7 CONSTRUCTION

7.29 Hearing Protector: Totally dielectric, 19,000V isolation
7.30 Cable Retention: Anchor ring and adhesive to Earcup
7.31 CABLE STRAIN RELIEF: Rubber grommets in earcup

8 HEARING PROTECTOR

7.32 Style: SED™ Inc. for use with or without hardhat
7.33 Rating: CSA (B) per ANSI S3.19-1974
7.34 Noise Reduction Rating: (NRR) 24 dB before earcup modification
7.35 Weight: 500 grams
7.36 Height: 11.9 cm Max.
7.37 Width: 8.5 cm Max.
7.38 Depth: 5.5 cm Max (Not including Cushion and Mount)
7.39 Ear Cushion Thickness: 1.7 cm (In non-compressed state)
7.40 Headstrap Positions: Over the head
7.41 Tension Band: Behind the head
7.42 Earcushions: PVC foil over foam, Field replaceable
7.43 Options: Moisture-absorbing disposable pads, for Peel-and-Stick application to cushion
7.44 Compatibility: Useable with Hardhats, Bump Caps, SCBA, Half Face Masks

9 CONNECTION CORD

7.45 Location: Right earcup
7.46 Length: 36" (91.44 cm) (from earcup to end of connector)
7.47 Style: Retractable
7.48 Jacket Material: SEDFLEX™ I
7.49 Chemical Resistance: gasoline, ethanol, methanol, motor oil, salt solutions
7.50 Temp Range: -40° to +60° C
7.51 Termination: Push Pull Release

10 RECEIVERS

7.52 Configuration: Dual receiver units wired in parallel for redundancy
7.53 Impedance : 32 Ohms each
7.54 Frequency Response: 300 – 4000 Hz +/- 5 dB
7.55 Sensitivity @ 1 Khz: 72 dB +/- 4 dB

TT916-TX SPECIFICATIONS

	TT-916TX					
Parameter	Designation	Min.	Typical	Max.	Units	Notes
POWER SUPPLY						
Operating Voltage	VCC		4.5Vdc		VDC	
Supply Current			25		mA	
TRANSMIT SECTION						
Transmit Frequency:	FC		916.48		MHz	
Output Power	PO	-3	0	4	dBm	
Frequency Deviation	FDEV	80	–	130	kHz	
Analog/Audio Bandwidth	–	200	–	7,000	Hz	
Operating Temperature Range	–	0	–	70	°C	

TT916-RX SPECIFICATIONS

Parameter	Designation	Min.	Typical	Max.	Units	Notes
POWER SUPPLY						
Operating Voltage	VCC	4.5			VDC	–
Supply Current	ICC	22	24	70	mA	–
Receive Frequency:	FC		916.48		MHz	
Receiver Sensitivity	–	-92	-97	-102	dBm	
Audio Bandwidth	–	200	–	7000	Hz	
Audio Output Level	–	–	5000	–	mVP-P	
Operating Temperature Range	–	0	–	70	°C	

Certification

FCC

FCC ID: QU6TT916TX Compliant

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential environment.

Installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Consult the dealer or an experienced radio/TV technician for help. The device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

In order to maintain compliance with FCC regulations, the user is cautioned that changes and modifications made to the equipment without the approval of manufacturer could void the user's authority to operate this equipment.

INDUSTRY CANADA

IC: 7968A-TT916TX

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement

LIMITED WARRANTY

Special Electronics & Designs ("SED") warrants to you, the original purchaser, that this product, excluding batteries and rechargeable batteries, will be free from defects in materials and workmanship for a period of 12 months from the date of purchase. Upon discovery of any suspected defect, please return the product, postage prepaid, along with your original sales receipt or invoice and a written description of the defect, to:

Special Electronics & Designs Inc.
214 Bruce Ave.
Kincardine, Ontario
CANADA N2Z 2P3
519-396-8555
sales@sed.bz
www.sed.bz

SED will repair or replace any defective product within 30 days after receiving the defective product, defect description and sales receipt or invoice. SED, at its expense, will return the repaired or replacement product to you or, if the product has been discontinued, send you a product of equal quality and value. If SED determines that the product is not defective, SED will return the product to you at your expense. Your exclusive remedy and the entire liability of SED related to the product shall be expressly limited to repair or replacement of the defective product as provided above or, if SED determines that such repair or replacement is not feasible, to a refund of the purchase price upon return of the product to SED.

This warranty does not extend to any product sold by SED which has been subject to misuse, neglect, alteration or improper installation. If SED determines that the defect was caused by misuse, neglect, alteration or improper installation, you are responsible for paying for any repair or replacement of the product. SED will inform you of these charges and will repair the product after receipt of payment.

EXCEPT AS SPECIFICALLY PROVIDED IN THIS LIMITED WARRANTY, THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO THE PRODUCT, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL SED BE LIABLE TO PURCHASER OR ANY OTHER PERSON OR ENTITY FOR ANY CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGES, INCLUDING WITHOUT LIMITATION DAMAGES FOR BUSINESS INTERRUPTION, LOST PROFITS, PERSONAL INJURY, PROPERTY DAMAGE OR ANY OTHER DAMAGES, REGARDLESS OF WHETHER A CLAIM OR ACTION FOR SUCH DAMAGES IS BASED ON THEORIES OF CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY, OR ANY OTHER THEORY OF LIABILITY, EVEN IF IT IS ADVISED OF THE POSSIBILITY OR LIKELIHOOD OF SUCH DAMAGES.

Please return the warranty registration card to SED at the above address so that SED can keep you informed of important technical developments concerning this product.